

CLAIMS

What is claimed is:

1. A built-in pre-conditioning apparatus for pre-conditioning a substrate, comprising:
 - a pre-conditioning arm; and
 - an ingot carried by said pre-conditioning arm for engaging and pre-conditioning the substrate.
2. The apparatus of claim 1 wherein said ingot comprises a material selected from the group consisting of copper, silicon dioxide and tantalum.
3. The apparatus of claim 1 further comprising an actuation mechanism operably engaging said pre-conditioning arm for selectively moving said ingot into and out of contact with the substrate.
4. The apparatus of claim 3 a material selected from the group consisting of copper, silicon dioxide and tantalum.

5. The apparatus of claim 1 wherein said pre-conditioning arm comprises a support and an ingot mount head carried by said support, and wherein said ingot is carried by said ingot mount head.

6. The apparatus of claim 5 wherein said ingot comprises a material selected from the group consisting of copper, silicon dioxide and tantalum.

7. The apparatus of claim 5 further comprising an actuation mechanism operably engaging said support of said pre-conditioning arm for selectively moving said ingot into and out of contact with the substrate.

8. The apparatus of claim 7 wherein said ingot comprises a material selected from the group consisting of copper, silicon dioxide and tantalum.

9. A method of pre-conditioning a polishing pad, comprising the steps of:

providing an ingot;

providing relative motion between said ingot and the polishing pad; and

causing contact between said ingot and the polishing pad.

10. The method of claim 9 wherein said causing contact between said ingot and the polishing pad comprises the step of pressing said ingot against the polishing pad at a pressure of from about 4 psi to about 5 psi.

11. The method of claim 9 wherein said causing contact between said ingot and the polishing pad comprises the step of causing contact between said ingot and the polishing pad for about 40 seconds to about 60 seconds.

12. The method of claim 11 wherein said causing contact between said ingot and the polishing pad further comprises the step of pressing said ingot against the polishing pad at a pressure of from about 4 psi to about 5 psi.

13. The method of claim 9 wherein said ingot comprises a material selected from the group consisting of copper, silicon dioxide and tantalum.

14. The method of claim 13 wherein said causing contact between said ingot and the polishing pad comprises the step of pressing said ingot against the polishing pad at a pressure of from about 4 psi to about 5 psi.

15. The method of claim 13 wherein said causing contact between said ingot and the polishing pad comprises the step of causing contact between said ingot and the polishing pad for about 40 seconds to about 60 seconds.

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16. The method of claim 15 wherein said causing contact between said ingot and the polishing pad comprises the step of pressing said ingot against the polishing pad at a pressure of from about 4 psi to about 5 psi.

17. A method of pre-conditioning a polishing pad, comprising the steps of:

providing an ingot;

providing relative motion between said ingot and the polishing pad;

causing contact between said ingot and the polishing pad; and

moving said ingot in a sweeping motion over the polishing pad.

18. The method of claim 17 wherein said causing contact between said ingot and the polishing pad comprises the step of pressing said ingot against the polishing pad at a pressure of from about 4 psi to about 5 psi.

19. The method of claim 17 wherein said causing contact between said ingot and the polishing pad comprises the step of causing contact between said ingot and the polishing pad for about 40 seconds to about 60 seconds.

20. The method of claim 17 wherein said ingot comprises a material selected from the group consisting of copper, silicon dioxide and tantalum.